M. ELIZABETH HALLORAN
Curriculum Vitae

Degrees

1989	DSc	Population Sciences, Harvard School of Public Health, Boston, MA Concentration: Human Ecology and Population Dynamics of Infectious Disease
1985	MPH	Tropical Public Health, Harvard School of Public Health, Boston, MA
1983	MD	*Freie Universität Berlin*, West Berlin, Germany, licensure in Germany 1983
1972	BSc	General Science, University of Oregon, Eugene, Oregon

Faculty Positions (primary)

1/06–present	Full Member	Program in Biostatistics and Biomathematics Fred Hutchinson Cancer Research Center, Seattle
1/06–present	Professor	Department of Biostatistics, School of Community Medicine and Public Health, University of Washington
9/98–12/05	Professor	Department of Biostatistics, Rollins School of
9/93–8/98	Associate Professor	Public Health, Emory University
9/90–8/93	Assistant Professor	Division of Biostatistics, School of Public Health, Emory University
12/89–8/90	Assistant Professor	Department of Epidemiology and Biostatistics School of Medicine, Emory University

Faculty Positions (secondary) and Responsibilities

6/09–present	Director and Founder, Summer Institute in Statistics and Modeling in Infectious Diseases, Department of Biostatistcs, University of Washington
9/05–12/05	Director, NIH/NIGMS Training Grant in Biostatisitics in Genetics, Immunology, and Neuroimaging (BGIN), Emory
2/04–12/05	Director, Center for Highthroughput Experimental Design and Analysis (CHEDA), Emory
9/02–12/05	Director, Center for AIDS Research, Biostatistics Core, Emory
9/92–8/03	Director, NIH Statistical and Clinical Research Training Grant in AIDS, Emory
9/96–12/05	Faculty, Population Biology, Ecology, and Evolution (PBEE) PhD Program, Graduate Division of Biological and Biomedical Sciences, Emory
6/94–12/05	Secondary appointment Department of Epidemiology, Emory
9/92–12/05	Secondary appointment Department of Biology, Emory College

Visiting situations

Winter 1995	Visiting Associate Professor	University of Minnesota, Biostatistics
Spring 1995	Visiting Associate Professor	Carnegie Mellon Univeristy, Statistics
Summer 1993, 94, 95, 99	Visiting Scholar	Stanford University, Statistics
Summer 2003	Visiting Faculty	Los Alamos National Laboratories, Statistics
Winter, Spring 2005	Visiting Faculty	UC Santa Barbara, Statistics

Postdoctoral Education and Positions

1989 Research Associate, Department of Biology, Princeton University, based at the Department of Pure and Applied Biology, Imperial College, University of London.

Faculty Advisor: Robert M. May.

1985-86 Research Fellow, Department of Tropical Public Health, Harvard School of Public Health, Boston, MA. Faculty Advisor: Andrew Spielman.

1984 Diploma in tropical medicine and parasitic diseases
Bernard-Nocht Institute of Tropical Medicine, Hamburg, Germany

1982-83 Medical Internship, City Hospital of Neukölln, Berlin, Germany

Other education

1993–94 Graduate Student, Department of Mathematics, Georgia Institute of Technology, Atlanta, GA

1981 Clinical electives: University of Southampton, Southampton, United Kingdom, orthopedics, neurology, neurosurgery

1973-75 Graduate student, Max-Planck Institute for Molecular Genetics, Berlin, Germany

1974-75 *Vordiplom* examination in biology: emphasis on plant physiology, Freie Universität Berlin, Berlin, Germany

1968-70 Case Western Reserve University, Cleveland, Ohio, Majors: physics, philosophy of mathematics

1968 Harvard University Summer School, Boston, MA, abstract algebra and calculus

Other Research Experience

1989-90 Collaborator, Oswaldo Cruz Foundation, Rio de Janeiro, Brazil, Rockefeller Foundation-funded project on modeling of AIDS vaccines at the cellular level

1987 Epidemiologist, Theobald Smith Institute, Massachusetts State Laboratories, Boston, MA, formulation of a protocol for the National Seroprevalence Study of HIV Infection in Childbearing Women

1986-87 Co-organizer, comparative study of health effects of the war in Nicaragua in collaboration with people from Harvard School of Public Health, and the Schools of Public Health and Medicine in Managua, Nicaragua

1983-84 Medical research associate, City Hospital of Neukölln, West Berlin, study of a hypo-allergenic oral formula to prevent chronic diarrhea in infants with acute diarrhea

1971-72 University of Oregon, Institute of Molecular Biology, Eugene, Oregon, student assistant in DNA recombination studies using λ phage.

Honors and Awards

2009 Fellow, American Association for the Advancement of Science

2006-2007 Dr. Ross Prentice Professor of Biostatistics, University of Washington

2002 40th Don W. Gudakunst Memorial Lecture, Department of Epidemiology, University of Michigan

1996 Fellow, American Statistical Association

1997 Fellow, Royal Statistical Society

9/86-6/87 Graduate Associate, Takemi Program of International Health, Harvard School of Public Health

Language Facility

English (native), German (fluent), Spanish (struggling), French, Portuguese (scientific reading)

Memberships

1990– American Association for the Advancement of Science
1993–2002 American Society of Tropical Medicine and Hygiene
1990– American Statistical Association
1990– Biometric Society
1994– Institute of Mathematical Statistics
1989–2009 Society for Epidemiologic Research
1989–2004 Society for Vector Ecology

Editorial service

2009–present Editorial Board, *Statistical Communications in Infectious Diseases*
2008–present Editorial Board, *Epidemics*
2004–present Associate Editor, *Biometrics*
2002–2009 Associate Editor, *American Journal of Epidemiology* (also 1991–97)
1994–2005 Editorial Board, *Statistics in Medicine*
1998–2003 Associate Editor, *Journal of the American Statistical Association*, Applications and Case Studies
1993–98 Editorial Board, *Epidemiology*

Service to professional associations

2003–2005 Member, Selection Committee, Excellence in Statistical Reporting Award, American Statistical Association
2004–2006 Member, (2006 Chair) Fellow Selection Committee, American Statistical Association
1998–2003 Board of Trustees, National Institute of Statistical Sciences
1991–93 Member, Core exam writing group, American Board of Preventive Medicine.
1994–95 Program Chair, Section on Epidemiology, American Statistical Association

Technical assistance and consulting

2008–present Merck Advisory Panel for Second Generation HPV Vaccines
2004–2008 NIH Study Section for Biostatistics Methods and Research Design
2007–2008 WHO Quiver Committee
2008 NIH Reviewer, Young Innovator Awards
2007 NIH Panel for Interviewing the Pioneer Award Finalists.
2006 Merck, consultation on HIV vaccines, October 10, 2006.
2005 National Centers for Disease Control and Prevention, June 21, 2005, Plan for pandemic influenza.
2005 Global Health Security Action Group (G7 plus Mexico) (Influenza Modeling Workshop and Tabletop Exercise) London, May 31-June 3, 2005, under auspices of DHHS.
2005 Texas Influenza Vaccine Study Investigators' Meeting, Temple, Texas, May 24-25, 2005.
2004-2005 Riverside County Health Department Modeling Workshop for Public Health Practitioners, Palm Springs, California, March 2005, Planning Committee and two talks.
2004 FDA on improving FDA's approach to clinical trials and vaccines, October 2004, invited talk.
2004 Merck, consultation on design of vaccine studies, October 4, 2004.
2004 Department of Health and Human Services, August 2004, Planning for pandemic influenza.
2002–2004 Working Group on Smallpox Modeling of the Secretary's Committee on Public Health Preparedness.
2004 WHO, External Review Group, Estimating Measles Mortality, January, 2004

1999–2003	Data Safety and Monitoring Board, Vaxgen International and Domestic HIV Vaccine Trials, Thailand and USA.
1998–2002	Aviron, consulting, influenza vaccine community trials
1999–2002	Merck Research Laboratories, consulting
2001	NIH R01 external reviewer, SNEM-5 Study section, December, 2001
2001	NIH/NCI, Chair of P01 Site visit and review, January, 2001
2001	NIH/NCI, Ad hoc Member, P01 Parent Committee, March, 2001
2001	EPA, Scientific Advisory Panel, Probabilistic Models and Methodologies: Advancing the Ecological Risk Assessment Process in the EPA Office of Pesticide Programs, March 13-16, 2001
2001	NSF review of Technology Center proposal
1998-2004	External NSF grant review, one or two per year
1992–99	NIH Biostatistics Special Study Section (then SNEM-5) (15 times 1992–99, chair five times)
1995–97	NSF Institute of Mathematics and its Applications, Organizing Committee for Summer 1997 Workshop on Statistics in the Health Sciences.
1994–95	National Academy of Science, Institute of Medicine, Committee on Vaccine Development: Establishing Priorities for the U.S. for the 21st Century
1995	NSF, Division of Mathematical Sciences, Review Panel Career Advancement Awards and Research Planning Grants
1994–98	PDU/TDR/WHO Transmission-blocking Malaria Vaccine Task Force
1994	NIH Review: HIV Vaccine Preparedness Study and Phase III Trial Sites (6/94)
1995	NIH P01 Review Group with reverse site visit, National Cancer Institute
1997	NIH P01 Initial Review Group with site visit, National Cancer Institute (5/97)
1993	CDC Expert panel discussion on varicella vaccines, January 12, 1993.
1991	Consultant, Evaluating the Schools of Public Health in Bolivia, March 1-16, 1991.
1990	Consultant, Seminar on Methods for Study Designs for Malaria Vaccines, Instituto de Inmunologia, Bogota, Colombia, July 16-19, 1990.
1989	Participant, First International Meeting of Unesco Project to Improve Primary School Performance, Nutrition and Health Stockholm, Sweden, April 3-5.

University of Washington courses

Analytic Methods for Infectious Disease, Winter 2007, Winter 2009

Emory University courses

Causal Inference WS 2005-06
Bayes and empirical Bayes methods, SS 1996, WS 1998-99, WS 2000-01, SS 2003.
Analysis of microarray data, SS 2002, WS 2003.
Missing and mismeasured data, WS 1996-97, SS 2000.
Statistical computing, WS 1997-98, SS 2000.
Theory of survival analysis, including counting processes, SS 1992, SS 1994.
Generalized Linear Models, SS 2001.
Introduction to analytic methods for infectious disease interventions, SS 1993.
Analytic methods for infectious disease interventions, SS 1990-91, SS 1992-93, WS 1995-96, WS 1997-98.
Population Biology and Dynamics of Disease, WS 1993-94.
Advanced Seminar in Biometry, WS 1990-91, SS 1993.
Epidemiology of AIDS: methodological issues, SS 1989-90, WS 1991-92.

PhD Research Seminar, WS 1995-96, WS 1996-97, WS 1998-99.

Harvard University courses

SS 1989 Teaching Fellow (course coordinator), Biology, Epidemiology, Economics and Policy of Malaria (BEEP), Department of Tropical Public Health, School of Public Health

WS 1988 Population Dynamics of Infectious Diseases in Humans, Biology Department, Faculty of Arts and Sciences

1986-87 Population Dynamics of Infectious Diseases in Humans, full year undergraduate seminar, Biology Department, Faculty of Arts and Sciences.

Short courses and tutorials

1992 New England Epidemiology Summer Program, Boston MA, July 12-31, Concepts in Infectious Disease Epidemiology

1992 University of São Paulo, Brazil, August 3-6, Concepts in Infectious Disease Epidemiology

1997 Chiron Corporation, Emeryville, CA, December 15-16, Design and Analysis of Vaccine Studies

1998 Bristol Myers Squibb, Connecticut, April 24, Design and Analysis of Vaccine Studies, Causal Inference

2000 Research Methods on Vaccines and Immunization in Public Health, Oswaldo Cruz Foundation, Rio de Janeiro, Brazil, December 18-22.

2006 Analytic Methods for Infectious Diseases, ENAR Biometrics Meeting, Tampa, FL, March, 2006

2007 Analytic Methods for Infectious Diseases, ENAR Biometrics Meeting, Atlanta GA, March, 2007

Other

- Proposer and Organizer, Workshop on Analysis of Infectious Disease Data, Mathematisches Forschungsinstitut in Oberwolfach, Germany, November 1-7, 2009.

Doctoral dissertations directed

Emory:

1992 P. Rhodes, PhD Biostatistics

1992 O. Devine, PhD Biostatistics

1995 M. Kolzcak, PhD Biostatistics

1997 D. Dunson, PhD Biostatistics

1998 G.T. Golm, PhD Biostatistics

2001 K. T.Cuenco, PhD Epidemiology

2003 Haitao Chu, PhD Biostatistics

2007 Haiyan Wu, PhD Biostatistics

(2011) Nicole Basta, PhD Epidemiology

Doctoral committees

Emory:

1990 V.J.C. Suman, PhD Biostatistics.

1990 W.S. Clark, PhD Biostatistics

1994 J. Bertolli, PhD Epidemiology (UCLA).

1995 D.J. Mosur, PhD Epidemiology.

1997 L.K. Durham, PhD Biostatistics.
1997 M.R. Sternberg, PhD Biostatistics
1999 B. Viswanathan, PhD Biostatistics
2000 M. Hudgens, PhD Biostatistics
2000 D. Price, PhD Biostatistics
2002 E. Hill, PhD Biostatistics
2004 Y. Yang, PhD Biostatistics
2006 E. Tassone, PhD Biostatistics

U Washington:
2008 JoAnna Scott, PhD Biostatistics
(2010) Jonathan Sugimoto, PhD Epidemiology
(2010) Laura Matrajt, PhD, Applied Mathematics
(2010) Gail Potter, PhD, Statistics

Masters' theses directed

1992 N. Wahlay, general MPH.
1999 D. Cowart, biostatistics MSPH.

Faculty sponsor

1992–96 F. Powell, PhD student Biostatistics, recipient of an NIH minority predoctoral fellowship

Peer–reviewed publications

1. Russo VEA, Gallori E, and Halloran ME. (1977) Ethylene is Involved in the Autochemotropism of Phycomyces. *Planta* **134**:61-67.

2. Struchiner CJ, Halloran ME, and Spielman A. (1989) Modeling Malaria Vaccines I: New Uses for Old Ideas. *Math Biosc*, **94**:87-113.

3. Halloran ME, Struchiner CJ, and Spielman A. (1989) Modeling Malaria Vaccines II: Population Effects of Stage-specific Malaria Vaccines Dependent on Natural Boosting. *Math Biosc*, **94**:115-149.

4. Nicaragua Health Study Collaborative at Harvard, and CEIS, and UNAN. (1989) Health Effects of the War in Nicaragua in Two Communities. *Am J Pub Health*, **79**:424-430.

5. Halloran ME, Bundy DAP, and Pollitt E. (1989) Infectious Disease and the Unesco Basic Education Initiative. *Parasitology Today*, **5**:359-362.

6. Struchiner CJ, Halloran ME, Robins JM, Spielman A. (1990) The Behavior of Common Measures of Association Used to Assess a Vaccination Program under Complex Transmission Patterns - A Computer Simulation Study of Malaria Vaccines. *Int J Epidemiol*, **19**:187-196.

7. Longini IM, Haber MJ, Halloran, ME. (1990) Efectos directos e indirectos de las vacunas: un anotación sobre la estimación de la eficacia vacunal a partir de brotes por agentes de infecciones agudas como sarampión. *Bol Med Hosp Infant Mex*, **47**:516-520.

8. Halloran ME, Haber MJ, Longini IM, Struchiner CJ. (1991) Direct and Indirect Effects in Vaccine Efficacy and Effectiveness. *Am J Epidemiol*, **133**:323-331.

9. Haber MJ, Longini IM, Halloran, ME. (1991) Measures of the Effects of Vaccination in a Randomly Mixing Population. *Int J Epidemiol*, **20**:300-310.

10. Haber MJ, Longini IM, Halloran, ME. (1991) Estimation of Vaccine Efficacy in Outbreaks of Acute Infectious Diseases. *Statistics in Medicine*, **10**:1573-1584.

11. Halloran ME and Struchiner CJ. (1991) Study Designs for Dependent Happenings. *Epidemiology*, **2**:331-338.

12. Struchiner CJ and Halloran ME. (1992) Models of AIDS Vaccines: The Cellular Level. *Memorias de Instituto Oswaldo Cruz*, Rio de Janeiro, **87**:103-113.

13. Halloran ME, Haber MJ, and Longini, IM. (1992) Interpretation and Estimation of Vaccine Efficacy under Heterogeneity. *Am J Epidemiol*, **136**:328-343.

14. Halloran ME and Struchiner CJ. (1992) Modeling transmission dynamics of stage-specific malaria vaccines. *Parasitology Today*, **8**:77-85.

15. Halloran ME. (1992) Persistence, Drugs, and Rock'n'Roll. *Trends in Ecology and Evolution*, **7**:212-214.

16. Longini IM, Halloran ME, Haber MJ, Chen, RT. (1993) Measuring Vaccine Efficacy from Epidemics of Acute Infectious Agents: Study Designs and Estimation Methods. *Statistics in Medicine*, **12**:249-263.

17. Brunet R, Struchiner CJ, and Halloran ME (1993) On the distribution of vaccine protection under heterogeneous response. *Math Biosc*, **116**:111-125.

18. Longini IM, Halloran ME, and Haber MJ (1993) Estimation of vaccine efficacy from epidemics of acute infectious agents under vaccine-related heterogeneity. *Math Biosc*, **117**:271–281.

19. Halloran, ME. (1993) *Salmonella enteritidis* infection in France and the United States: causes versus causal models. *American Journal of Public Health* **83**:1667-1669.

20. Lieu TA, Cochi SL, Black S, Halloran ME, Shinefield HR, Holmes SR, Wharton M, and Washington AE. (1994) Cost-effectiveness of a routine varicella vaccination program for US children. *Journal of the American Medical Association*, **271**:375–381.

21. Halloran, ME. (1994) *Mycobacterium tuberculosis*: just desserts for an ungrateful luncheon guest. *Trends in Ecology and Evolution* **9**:72–74.

22. Halloran ME, Longini IM, Struchiner CJ, Haber MJ, Brunet R. (1994) Exposure efficacy and change in contact rates in evaluating HIV vaccines in the field, *Statistics in Medicine*, **13**:357-377.

23. Halloran ME, Struchiner CJ, and Watelet, L. (1994) Epidemiologic effects of vaccines with complex direct effects in an age-structured population, *Math Biosciences* **121**:193–225.

24. Halloran ME, Cochi SL, Lieu TA, Wharton M, Fehrs L. (1994) Epidemiologic and morbidity effects of routine varicella immunization of preschool children in the United States, *American Journal of Epidemiology*, **140**:81–104.

25. Devine OJ, Louis TA, Halloran ME. (1994) Empirical Bayes methods for stabilizing incidence rates before mapping, *Epidemiology* **5**:622-630.

26. Longini, IM, Halloran, ME, Haber MJ. (1995) Some current trends in estimating vaccine efficacy, in *Epidemic Models: Their Structure and Relation to Data*, pp. 394–403, ed. D. Mollison, Cambridge University Press, Cambridge.

27. Halloran ME, Longini IM, Struchiner CJ, Haber MJ. (1995) Feasibility of prophylactic HIV vaccine trials: some statistical issues. in *Models for Infectious Human Diseases*, pp. 76–82, ed. V.S. Isham and G. Medley, Cambridge University Press, Cambridge.

28. Devine OJ, Louis TA, Halloran ME. (1994) Empirical Bayes estimators for spatially correlated incidence rates, *Environmetrics*, **5**:381-398.

29. Haber M, Halloran ME, Longini IM, Watelet L. (1995) Estimation of vaccine efficacy in non-randomly mixing populations. *Biometrical Journal* **37**:1, 25–38.

30. Halloran ME and Struchiner CJ. (1995) Causal inference for infectious diseases, *Epidemiology*, **6**:142–151.

31. Struchiner CJ, Halloran ME, Brunet R, Ribeiro JMC, Massad E. (1995) Malaria vaccines: lessons from the field. *Cadernos do Saúde Pública*, **10**(supplement 2):310-326.

32. Longini IM and Halloran ME. (1995) AIDS: Modeling Epidemic Control. letter to *Science* **267**:1250-1251.

33. Haber MJ, Orenstein WA, Halloran, ME, Longini IM, and Watelet, L. (1995) The effect of disease prior to an outbreak on estimates of vaccine efficacy, *American Journal of Epidemiology*, 141:980–990.

34. Norohna, CP, Struchiner CJ, Halloran ME. (1995) Assessment of the direct effectiveness of BC meningococcal vaccine in Rio de Janeiro, Brazil: a case-control study, *International Journal of Epidemiology*, **24**(5):1050-1057.

35. Haber MJ, Watelet L, and Halloran, ME. (1995) On individual and population effectiveness of vaccination. *Int J Epidemiol.* **24**:1249–1260.

36. Struchiner CJ, Brunet R, Halloran ME, Massad E, Azevedo-Neto RS. (1995) On the use of state-space models for the evaluation of health interventions. *Journal of Biological Systems.* **3**:851–865.

37. Longini IM and Halloran ME. (1996) A frailty mixture model for estimating vaccine efficacy. *Applied Statistics*, **45**:165–173.

38. Devine OJ, Louis TA, Halloran ME. (1996) Identifying areas with high rates in mapping using empirical Bayes methods *Geographic Analysis*, **28**: 187–199.

39. Antia R. and Halloran ME. (1996) Recent developments in theories of pathogenesis of AIDS. *Trends in Microbiology*, **4**:282–285.

40. Halloran, ME, Longini, IM and Struchiner, CJ. (1996) Estimability and interpretation of vaccine efficacy using frailty mixing models. *American Journal of Epidemiology*, **144**:83–97.

41. Efron B, Halloran ME, and Holmes, S. (1996) Bootstrap confidence intervals for phylogenetic trees, Proceedings of the National Academy of Sciences, **93**:7085–7090.

42. Mosure DJ, Berman S, Kleinbaum D, Halloran ME. (1996) Predictors of *Chlamydia trachomatis* infection among female adolescents: a longitudinal analysis, *American Journal of Epidemiology*, **144**:997–1003.

43. Halloran, ME. (1996) Evaluating HIV vaccines: discussion. *Statistics in Medicine*, **15**: 2405–12.

44. Rhodes P, Halloran ME, Longini IM. (1996) Counting process models for infectious disease data: distinguishing exposure to infection from susceptibility. *J Roy Statist Soc B*, **58**:751–762.

45. Longini, IM, Datta, S, and Halloran, ME. (1996) Measuring vaccine efficacy for both susceptibility to infection and reduction in infectiousness for prophylactic HIV-1 vaccines. *J AIDS and HR*, 13:440–447.

46. Bertolli J, Pangi C, Frerichs R, and Halloran ME. (1997) A case-control study of the effectiveness of BCG vaccine for preventing leprosy in Yangon, Myanmar. *International Journal of Epidemiology*, **26**:888-896.

47. Halloran ME, Struchiner CJ, and Longini, IM. (1997) Study designs for different efficacy and effectiveness aspects of vaccination, *American Journal of Epidemiology*, **146**:789-803.

48. Datta, S, Halloran, ME and Longini, IM (1998) Augmented HIV vaccine trial designs for estimating reduction in infectiousness and protective efficacy. *Statistics in Medicine*, **17**:185-200.

49. Longini IM, Sagatelian K, Rida WN, and Halloran ME. (1998) Optimal vaccine trial design when estimating vaccine efficacy for susceptibility and infectiousness from multiple populations, *Statistics in Medicine*, **17**:1121-1136.

50. Halloran, ME. (1998) Vaccine studies. Invited entry in *Encyclopedia of Biostatistics*, John Wiley and Sons, Inc., pp 4687-94.

51. Halloran, ME. (1998) Secondary attack rate. Invited entry in *Encyclopedia of Biostatistics*, John Wiley and Sons, Inc., pp 4025-29.

52. Sun F, Ashley AE, Durham LK, Feingold E, Halloran ME, Manatunga AK, Sherman SL. (1998) Testing for contributions of mitochondrial DNA mutations to complex diseases, *Genetic Epidemiology* **15**:451-469.

53. Durham, LK, Longini, IM, Halloran, ME, Clemens, JD, Nizam, A, Rao, M. (1998) Estimation of vaccine efficacy in the presence of waning; Application to cholera vaccines, *American Journal of Epidemiology*, **147**:948-959.

54. Golm, GT, Halloran, ME, and Longini, IM. (1998) Semiparametric models for mismeasured exposure information in vaccine trials, *Statistics in Medicine*, **17**:2335-2352.

55. Halloran, ME (1998) Statistical issues in HIV vaccine trial design, *Journal of the Royal Statistical Society A*, **161**:265-272.

56. Longini, IM, Hudgens, MG, Halloran, ME, Sagatelian, K. (1999) A Markov model for measuring vaccine efficacy for both susceptibility to infection and reduction in infectiousness for prophylactic HIV-1 vaccines, *Statistics in Medicine*, **18**:53-68.

57. Golm, GT, Halloran, ME and Longini, IM. (1999) Semiparametric methods for multiple exposure mismeasurement and a bivariate outcome in HIV vaccine trials, *Biometrics*, **55**:94–101.

58. Datta, S, Halloran, ME, and Longini, IM (1999) Randomization by individual or by household in vaccine studies?, *Biometrics*, **55**:792-8.

59. Durham, LK, Halloran, ME, Longini, IM, Manatunga, AM (1999) Smoothing methods for exploring time-dependent vaccine effects *Applied Statistics*, **48(3)**:395-407.

60. Halloran, ME, Longini, IM, Struchiner, CJ (1999) Design and interpretation of vaccine field studies. *Epidemiologic Reviews*, **21**:73-88.

61. Longini, IM and Hudgens, MG and Halloran, ME. (2001) Estimation of vaccine efficacy for both susceptibility to infection and reduction in infectiousness for prophylactic HIV vaccines with partner augmentation, in *The Quantitative Evaluation of HIV Prevention Programs*, editors Kaplan, E and Brookmeyer, R, Yale University Press, New Haven.

62. Longini, IM, Halloran, ME, Nizam, A, Wolff, M, Mendelman, PM, Fast, P, Belshe, RB. (2000) Estimation of the efficacy of live, attenuated influenza vaccine from a two-year, multi-center vaccine trial: Implications for influenza epidemic control, *Vaccine* **18**:1902-1909.

63. Hudgens MG, Longini IM, Halloran ME, Choopanya K, Vanichsen S, Kitayaporn D, Mastro TD, Mock PA. (2001) Estimating the HIV transmission probability in injecting drug users in Thailand, *Applied Statistics*, **50**:1-14.

64. Halloran, ME and Longini, IM. (2001) Use of validation sets for outcomes and exposure to infection in vaccine field studies. *American Journal of Epidemiology*, **154**:391–398.

65. Halloran, ME. (2001) Invited Commentary on C.P. Farrington, M.N. Kanaan, N.J. Gay, Estimation of the basic reproduction number for infectious diseases from age-stratified serological survey data. *Applied Statistics*, 50:287–288.

66. Longini IM, Halloran ME, and Nizam, A. (2002) Model-based estimation of vaccine effects from community vaccine trials. *Statistics in Medicine*, **21**:481-495.

67. Hudgens MG, Longini, IM, Vanichsen S, Hu DJ, Kitayaporn D, Mock PA, Halloran ME, Satten GA, Choopanya K, Mastro TD (2002) Estimating HIV-1 subtype-specific transmission probabilities among injection drug users in Bangkok, Thailand, *American Journal of Epidemiology*, **155**:159-168.

68. Halloran ME, Longini IM, Cowart DM, Nizam, A. (2002) Community trials of vaccination and the epidemic prevention potential, *Vaccine*, **20**:3254-62.

69. Halloran ME, Longini IM, Nizam A, and Yang Y. (2002) Containing bioterrorist smallpox, *Science*, **298**:1428-32.

70. Halloran, ME, Préziosi, M-P, and Chu, H. (2003) Estimating vaccine efficacy from secondary attack rates, *Journal of the American Statistical Association*, **98**:38–46.

71. Préziosi, M-P and Halloran, ME. (2003) Effects of pertussis vaccination on transmission: vaccine efficacy for infectiousness, *Vaccine*, **21**:1853–1861.

72. Halloran ME, Longini IM, Gaglani MJ, Piedra PA, Chu H, Herschler GB, Glezen WP. (2003) Estimating efficacy of trivalent, cold-adapted, influenza virus vaccine (CAIV-T) against influenza A (H1N1) and B using surveillance cultures, *American Journal of Epidemiology*, **158**:305-311.

73. Préziosi, M-P and Halloran, ME. (2003) Effects of pertussis vaccination on disease: vaccine efficacy for severity, *Clinical Infectious Diseases*, **37**:772-779.

74. Chu, H, Préziosi, M-P, and Halloran, ME (2004) Estimating heterogeneous transmission with multiple infectives using MCMC methods, *Statistics in Medicine*, **23**:35-49.

75. Gaglani MJ, Piedra PA, Herschler GB, Griffith ME, Kozinetz CA, Riggs MW, Fewlass C, Halloran ME, Longini IM, Glezen P. (2004) Direct effectiveness of the intranaal, live-attenuated trivalent, cold-adapted, influenza Virus Vaccine (CAIV-T) against the 2000-2001 influenza A (H1N1) and B epidemic in healthy children, *Arch Pediatr Adolesc Med*, **158**:65–73.

76. T.Cuenco K, Halloran ME, Louis-Charles J, and Lammie PJ. (2004) A family study of lymphedema of the leg in a lymphatic filariasis endemic area, *American Journal of Tropical Medicine and Hygiene*, **70**:180-184.

77. T.Cuenco K, Halloran ME, and Lammie PJ. (2004) Assessment of families for excess risk of lymphedema of the leg in a lymphatic endemic area, *American Journal of Tropical Medicine and Hygiene*, **70**:185-190.

78. Longini IM, Halloran ME, Nizam A, and Yang Y. (2004) Containing pandemic influenza with antivirals, *American Journal of Epidemiology*, 159:623-633.

79. Chu, H and Halloran, ME. (2004) Estimating vaccine efficacy using auxilliary outcome data and a small valdation set, *Statistics in Medicine*, **23**:2697-2713.

80. Chu, H and Halloran, ME. (2004) Bayesian estimation of vaccine efficacy, *Clinical Trials*, 1:306-314.

81. Weycker D, Edelsberg J, Halloran ME, Longini IM, Nizam A, Ciuryla V, Oster G. (2005) Population-wide benefits of routine vaccination of children against influenza, *Vaccine*, **23**:1284-1293.

82. Longini, IM and Halloran, ME (2005) Strategy for distribution of influenza vaccine to high-risk groups and children, *American Journal of Epidemiology*, **161**:303–306.

83. Patel, R, Longini, IM, and Halloran ME (2005), Finding optimal vaccination strategies for pandemic influenza using genetic algorithms, *Journal of Theoretical Biology*, **234**:201-212.

84. Halloran, ME and Lipsitch, M. (2005) Infectious Disease Modeling Contributions to the *American Journal of Epidemiology*, *American Journal of Epidemiology*, 161:997-998.

85. Longini IM, Nizam A, Xu S, Ungchusak K, Hanshaoworaku W, Cummings DAT, Halloran, ME (2005) Containing pandemic influenza at the source, *Science*, **309**:1083–87.

86. Halloran ME and Longini IM (2006) Community studies for vaccinating schoolchildren against influenza (Policy Forum), *Science*, **311**:615–616.

87. Hudgens, MG and Halloran, ME. (2006) Causal vaccine effects on binary post-infection outcomes, *Journal of the American Statistical Association*, **101**:51–64.

88. Yang, Y, Longini, IM, and Halloran, ME (2006), Design and evaluation of prophylactic interventions using infectious disease incidence data from close contact groups, *Applied Statistics*, 55:317-330.

89. Scharfstein DO, Halloran ME, Chu H, Daniels MJ. (2006) On estimation of vaccine efficacy using validation samples with selection bias, *Biostatistics* **7**:615-629.

90. Struchiner CJ and Halloran ME (2007) Randomization and baseline transmission in vaccine field trials, *Epidemiology and Infection*, **135**:181–194, published online by Cambridge University Press July 3, 2006.

91. Longini IM, Halloran ME, Nizam A, Yang Y, Xu S, Burke DS, Cummings DAT, Epstein JM. (2007) Containing a bioterrorist smallpox attack, *International Journal of Infectious Disease*, **11**:98–108.

92. Halloran, ME. (2006) Invited Commentary: Challenges of using contact data to understand acute respiratory disease transmission, *American Journal of Epidemiology*, **164**:936–944.

93. Halloran ME, Hayden FG, Yang Y, Longini, IM and Monto AS. (2007) Antiviral effects on influenza viral transmission and pathogenicity: Observations from household-based trials, *American Journal of Epidemiology*, **165**:212–221.

94. Halloran, ME, Piedra, PA, Longini, IM, Gaglani, MJ, Schmotzer, B, Fewlass, C, Herschler, GB, Glezen, WP. (2007) Efficacy of Trivalent, Cold-Adapted, Influenza Virus Vaccine Against Influenza A (Fujian), a Drift Variant, during 2003-2004, *Vaccine*, **25**:4038–4045.

95. Fay MP, Halloran ME, Follmann DA. (2007) Accounting for variability in sample size estimation with applications to nonadherence and estimation of variance and effect size, *Biometrics*, **63**:465–474.

96. Yang Y, Longini, IM, Halloran, ME. (2007) A resampling-based test to detect person-to-person transmission of infectious disease, *Annals of Applied Statistics*, 1:211–228.

97. Yang, Y, Longini, IM, Halloran, ME (2007) A data-augmentation method for infectious disease incidence data from close contact groups, *Computational Statistics and Data Analysis*, 51(12): 6582–6595.

98. Yang, Y, Halloran, ME, Sugimoto, J, Longini, IM. (2007) Detecting human-to-human transmission of Avian A(H5N1) influenza, *Emerging Infectious Diseases*, September 2007. Available from http://www.cdc.gov/EID/content/13/9/1348.htm.

99. Wu, H, Yuan M, Kaech, S and Halloran ME (2007) A statistical analysis of memory CD8 T cell differentiation: an application of a hierarchical state space model to short time course microarray experiments, *Annals of Applied Statistics*, **1**:442-458.

100. Hudgens, MG and Halloran, ME. (2008) Towards causal inference with interference, *Journal of the American Statistical Association*, **103**:832–842.

101. Halloran ME, Ferguson NM, Eubank S, Longini IM, et al. (2008) Modeling targeted layered containment of an influenza pandemic in the United States, *Proceedings of the National Academy of Sciences*, 105:4639–4644.

102. Basta, NE, Halloran, ME, Matrajt, L, and Longini IM. (2008) Estimating influenza vaccine efficacy from challenge study data, *American Journal of Epidemiology*, 168:1343–1352.

103. Yang, Y, Gilbert, P, Longini, IM, Halloran, ME. (2009) A Bayesian framework for estimating vaccine efficacy per infectious contact, *Annals of Applied Statistics*, **2**:1409–1431.

104. Yang, Y, Halloran, ME and Longini, IM. (2009) A Bayesian model for evaluating influenza antiviral efficacy from household studies with asymptomatic infections, *Biostatistics*, **10**:364–373.

105. Abu-Raddad, L, Sabatelli, L, Achterberg, JT, Sugimoto, JD, Longini, IM, Dye, C, Halloran ME. (2009) Epidemiological benefits of more-effective tuberculosis vaccines, drugs, and diagnostics, *Proceedings of the National Academy of Sciences*,**106**(33):13980–5, doi/10.1073/pnas.0901720106, early edition online August 3, 2009.

106. Basta, NE, Chao, DL, Halloran, ME, Matrajt, L, and Longini, IM. (2009) Strategies for pandemic and seasonal inuenza vaccination of schoolchildren in the United States, *American Journal of Epidemiology*, **170**:671–678; doi:10.1093/aje/kwp201.

107. Halloran, ME. (2009) On influenza and school closings: Time for prospective studies, Invited commentary, *Epidemiology*, **20**:793–795.

108. Halloran, ME and Holmes, EC. (2009) Invited commentary: Molecular sequence data of hepatitis B virus reveals decrease in genetic diversity after vaccination by van Ballegooijen and colleagues, *American Journal of Epidemiology*, **170**:1464–1466.

109. Yang, Y, Sugimoto, JD, Halloran, ME, Basta , NE, Chao, DL, Matrajt, L, Potter, G, Kenah, E, Longini, IM. (2009) The transmissibility and control of novel influenza A (H1N1) virus, *Science*, **326**:729–733.

110. Chao, DL, Halloran, ME, Obenchain, VJ, and Longini, IM (2010) FluTE, a publicly available stochastic influenza epidemic simulation model, PLoS Computational Biology, in press.

Submitted papers

1. Yang, Y, Halloran, ME, Daniels, MJ and Longini, IM (2010) Modeling competing infectious pathogens from a Bayesian perspective: Application to influenza studies with incomplete laboratory results, submitted.

2. Hertz, T, Jojic, N, Mallal, S, Phillips, E, Halloran, ME and Corey, L (2010) Antigenic variability of human HLA types to the novel swine-origin influenza A (H1N1) virus - A computational analysis, submitted.

3. Chao, DL, Halloran, ME, Longini, IM (2010) School opening dates predict pandemic influenza A (H1N1) epidemics in the USA, submitted.

Other publications

1. Denker C, Doughten D, Halloran ME *et al.* (1979) *Über die berufliche Erfahrung von weiblichen Ärzten: Ergebnisse einer Befragung*, (Concerning the Experiences of Woman Doctors in their Careers and Personal Lives: Results of an Investigation), Department of Social Medicine, Freie Universität, Berlin-Dahlem, Germany.

2. Shapira A, Beales PF, Halloran ME. (1993) Living with drug resistance to malaria. *Parasitology Today*, 9:168-174.

3. Halloran, ME and Struchiner CJ. (1995) Vaccine effects: Changes in susceptibility, infectiousness, contacts, direct and indirect effects. in Proceedings of the III Brazilian/ II Ibero American/ Latin American Congress on Epidemiology, April, 24–28, 1995. (Biostatistics Technical Report 95–9).

4. Halloran, ME. (1995) The potential outcome approach to cause. Invited Paper at the Interface Conference, Pittsburgh, June 1995, Biostatistics Technical Report 95–3.

5. Zanetta DMT, Halloran ME and Hawley, W. (1995) Analysis of repeated measurement data: an example. Technical Report 95–6, Department of Biostatistics, Emory University.

6. Dunson, D and Halloran ME. (1996) Estimating transmission blocking efficacy of malaria vaccines, Technical Report 96–16.

7. Halloran ME, Anderson RM, Azevedo-Neto RS, Bellini WJ, Branch O, Burke MA, Compans R, Day K, Gooding L, Gupta S, Katz J, Kew O, Keyserling H, Krause R, Lal AA, Massad E, McLean AR, Rosa P, Rota P, Wiener P, Wynn SG, Zanetta DMT. (1998) Population Biology, Evolution and Immunology of Vaccination and Vaccination Programs. *American Journal of Medical Sciences*, 315:76-86.

8. Golm, GT, Halloran, ME and Longini, IM. (1999) Validation sets for exposure to infection in HIV vaccine trials. Proceedings of the Epidemiology Section of the American Statistical Association, Dallas, August 1998.

9. Golm, GT and Halloran, ME (1998) Optimal sampling fractions and the mean score method for vaccine trials with mismeasured exposure information, Technical Report, Department of Biostatistics, Emory.

10. Halloran, ME. (2004) Statistics, biostatistics, and infectious disease. *Amstat News*, Invited President's Corner article, June, Issue 324, pp 2-3.

Books

1. Halloran, ME, Longini, IM, and Struchiner, CJ (2009) *Design and Analysis of Vaccine Studies*, Springer Verlag.

Edited Collections

1. *Statistics in Genetics*, (1999) eds. Halloran ME and Geisser, S. (IMA volumes in mathematics and its applications; vol.112). Springer Verlag, New York.

2. *Statistics in Epidemiology, Environmental Health and Clinical Trials*, (1999) eds. Halloran ME and Berry, D. (IMA volumes in mathematics and its applications; vol. 116). Springer Verlag, New York.

Book Chapters

1. Halloran ME. (1993) Concept and estimation of attributable risks in HIV epidemiologic research, in *Models and Methods of Epidemiologic Research on HIV Infection*, ed. Alfredo Nicolosi, Raven Press.

2. Halloran ME. (1996) Epidemiologic effects of varicella vaccination, in Infectious Disease Clinics of North America, ed. RW Ellis and CJ White. W.B. Saunders Co. **10**:631–655.

3. Halloran ME. (1998) Concepts of Infectious Disease Epidemiology, in *Modern Epidemiology*, ed. Rothman K and Greenland S, 2nd edition, Lippincott Raven Publishers.

4. Halloran ME. (2001) Concepts of Transmission and Dynamics, in *Epidemiologic Methods for the Study of Infectious Diseases*, ed. Thomas, J.C., Weber, D.J., Oxford University Press, Oxford, pp. 56-85.

5. Halloran ME. (2001) Overview of Study Design, *Epidemiologic Methods for the Study of Infectious Diseases*, ed. Thomas, J.C., Weber, D.J., Oxford University Press, Oxford, pp 86-115.

Book Reviews

1. *Infectious Diseases of Humans*, by R.M. Anderson and R.M. May. in *Trends in Microbiology*, 1994.

2. *Bayesian Data Analysis*, by A. Gelman, J. Carlin, H. Stern, D. Rubin, and *Bayesian and Empirical Bayes Methods for Data Analysis*, by B. Carlin and T.A. Louis, (1997) *Journal of the American Statistical Association*, **92**:1640-1642.

Abstracts

1. T.Cuenco K, Halloran ME, Addiss DG, Streit TG, Lammie PJ. Familial clustering of lymphedema of the leg in a lymphatic filariasis-endemic area. Presented at the Meeting of the Society of Tropical Medical and Hygiene, Houston, November 2000.

Emory University School of Public Health: committees

1990–91	Chair, Ad hoc International Health Evaluation Committee
1991	Member, Search Committee for Director of the Center of International Health
1991–92	Member, Accreditation self-study committee for research
1991–92	Member, Search committee for two Biostatistics Associate Faculty
1992–93	Chair, Search committee for Infectious Disease Epidemiologist, Center for International Health
1992–93	Chair, Search committee for Director of the Division of Biostatistics
1992–93	Chair, Search committee for PhD Faculty (junior and senior), Division of Biostatistics
1993	Member, Search committee for Infectious Disease Epidemiologist, Center for International Health
1993	Member, Search committee for Director of the Division of Biostatistics
1994–97	Editor, Biostatistics Technical Report Series
1994–95	Chair, Biostatistics PhD Curriculum Revision
1995–96	Chair, Biostatistics PhD Review
1996	Member, School Accreditation Committee for Research
1997	Member, School Research Strategic Planning Committee
1996–2003	Member, Biostatistics Computing Committee
1996–1999	Member, School Appointment, Promotions, and Tenure Committee
1999–2002	Member, School Appointment, Promotions, and Tenure Professor Committee
1999–2000	Chair, Search committee for tenure-track faculty, Biostatistics
2000	Chair, Junior faculty review, Biostatistics
2002	Chair, Assistant and Associate Professor review, Biostatistics
2001–2002	Member, Search Committee for Chair of Epidemiology
2002–2004	Member, Search Committee for Chair of Biostatistics
2003–2005	Chair, Biostatistics Computing Advisory Committee
2003–2004	Chair, Biostatistics Ad hoc Committee on Student Financial Support
2004	Chair, Biostatistics Strategic Planning Retreat

Emory University School of Public Health: other service

1990 Author, Perspectives for Epidemiology and Biostatistics in the School of Public Health, Discussion paper for Departmental Faculty Retreat, June 1990.
1992 Advisor, Survey on Gender Issues
1992 Co-organizor, Faculty Discussion on Gender Issues
1991 Co-initiator and co-organizor, Meetings of the women faculty on gender issues
1992 Coordinator, Biostatistics short course by Martin A. Tanner at Emory, 9/14–16.

Emory University service

1991–94 Member, Advisory Committee, Institute for Women's Studies
1990–91 Member, Emory /Carter Center Task Force
1991 Initiator and organizor, Mini-conference on perspectives for research on vector-borne diseases at Emory, with Jose M.C. Ribeiro, January, 1991.
1990–92 Initiator of invitation and organizor for visiting exhibit: The Value of the Human Being: Medicine in Germany 1915-1945.
1992–93 Member, Search committee for two population biologists, Department of Biology
1993–96 Member, New PhD Program development of Population Biology, Ecology, and Evolution, Graduate Division of Biological and Biomedical Sciences
1995 Co-organizor, Emory Workshop on Population Biology, Evolution and Control of Infectious Diseases, February 22–23, 1995.
1996–97 Chair, Provost's University Committee to Review Statistics at Emory
1998–2003 Executive Committee, Atlanta Area Vaccine Dinner Club
1999–2003 Steering Committee to form Center for Disease Ecology
2001–2002 Member, Search Committee Georgia Research Alliance Chair, Quantitative Genetics
2002–2003 Emory Representative to Georgia Research Alliance Bioinformatics Cluster
2001–2004 Emory representative to American Association of University Women (AAUW)

University of Washington service

2006-present Biostatistics Faculty Development Committee

Active and continued grants

4/92-11/10 Principal investigator, National Institutes of Health, R01 AI032042:
Methods for evaluating vaccine efficacy
Direct costs (05–10): ∼$1,100,000. Indirect costs: ∼$710,000.
Direct costs (99–05): $897,584. Indirect costs: $471,288.
Direct costs (95–99): $690,479. Indirect costs: $393,573.
Direct costs (92–95): $298,162. Indirect costs: $161,847.

5/09-4/14 (MPI) Principal investigator, National Institutes of Health, U01 GM070749:
Containing Bioterrorist and Emerging Infectious Diseases
Direct costs (09–14): ∼$2,700,000. Indirect costs: ∼$.

12/09-11/13 Principal investigator, Subcontract, National Institutes of Health, R01 AI085073:
Causal Inference for Infectious Disease Studies
P.I. Michael Hudgens, UNC Chapel Hill

Direct costs (subcontract) (09–13): $430,000. Indirect costs: $276,000.

Former grants and contracts

3/07-6/09 Principal investigator, Bill and Melinda Gates Foundation, Contract 5485:
Evaluating the BMGF Portfolio of New TB Drugs, Diagnostics and Vaccines
Direct costs (07–09): $509,663. Indirect costs: $201,465.

7/05-6/10 Program Director, National Institutes of Health NIGMS T32 GM074909 (left 12/05):
Biostatistics in Genetics, Immunology, and Neuroimaging
Direct costs (05-06): $179,684. Indirect costs: $7,447.

4/05–11/05 Principal investigator, National Institutes of Health, R56 AI32042-A1:
Methods for evaluating vaccine efficacy
Direct costs (05–06): $267,304. Indirect costs: $123,233.

10/02-12/05 Core Director (Biostatistics), National Institutes of Health
CFAR (PI Curran)
Direct costs (year): $97,650. Indirect costs: $.

6/05-5/06 Awardee, Emory University, University Teaching Fund Award
Course on Causal Inference, Direct costs (year): $5,000.

10/92-8/03 Program Director, National Institutes of Health T32 AI07442:
Statistical and Clinical Research Training on AIDS
Direct costs (97–03): $429,712. Indirect costs: $34,377.
Direct costs (92–97): $334,635. Indirect costs: $26,770.

10/03-9/04 Principal investigator, National Institutes of Health, 263-MD-306089:
Analytic methods for determining smallpox control in response to a bioterrorist attack
Direct costs: $71,533. Indirect costs: $26,467.

2/03-7/03 Principal investigator, National Institutes of Health, 263-MD-306089:
Analytic methods for determining smallpox control in reponse to a bioterrorist attack
Direct costs: $71,533. Indirect costs: $26,467.

12/01-5/02 University Teaching Fund Award, Emory University
Analysis of Microarray Data
Direct costs: $8,000.

9/01-8/02 IPA Agreement, Centers for Disease Control, 01IP09659
Evaluating Prophylactic Antivirals against Influenza
Direct costs: $43,645.

7/00-10/01 Principal investigator, National Institutes of Health, R13 CA91646:
Conference on Causation, Statistics, and Applications
Direct costs: $99,000.

4/97-3/01 Principal investigator, National Institutes of Health, R01 AI40846:
Design and analysis of HIV vaccine trials
Direct costs (97–01): $370,000. Indirect costs: $182,000.

4/91-3/97 Principal Investigator, National Institutes of Health FIRST Award R29 AI31057:
Study designs for malaria and other vector-borne disease
Direct costs (92–97): $336,087. Indirect costs: $158,834.

7/94-7/96 Principal Investigator, National Science Foundation Career Advancement Award DMS-9410138:
Foundations and Methods of Inference
Direct costs: $27,500. Indirect costs: $2,500.

1997 University Teaching Fund Award, Emory University
Developing a course in Statistical Computing
Direct costs: $4,900.

1997-8 University Research Fund Award, Emory University
Estimating the Relation of Exposure to Malaria Infection to Immunity
Direct costs: $4,811.

11/91-3/92 Principal Investigator. Centers for Disease Control Contract 308MIM92
Application of Mathematical Modeling of a Varicella Vaccination Program
Direct costs: $7,028. Indirect costs: $2,811.

9/90-2/91 Principal Investigator. Centers for Disease Control Contract 434MIM90
Mathematical Modeling of a Varicella Vaccination Program
Direct costs: $16,818. Indirect costs: $1,682.

January 12, 2010